



355 South Lemon Ave, Suite A  
Walnut, CA 91789  
(909) 595-5314 Phone  
(909) 595-5394 Fax

May 9, 2019

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, NE  
Washington, DC 20426

Re: Premium Energy Holdings' Application for Preliminary Permit for the  
Intermountain Pumped Storage Project, FERC Project No. \_\_\_\_\_

Dear Secretary Bose:

Pursuant to 18 C.F.R. §§ 4.32 and 4.81 of the Federal Energy Regulatory Commission's ("FERC") regulations, enclosed for filing is Premium Energy Holdings, LLC's ("Premium Energy") Application for Preliminary Permit for the Intermountain Pumped Storage Project. As detailed in the application, Premium Energy proposes to evaluate the potential development of a pumped storage power plant in the existing Intermountain Power Plant (IPP) facilities. Premium Energy has a keen interest in harnessing and increasing renewable energy production. The submittal of this application is for the purpose of securing priority during the licensing process. Feasibility studies will be carried out during the term of this preliminary permit in order to support the license application.

Premium Energy looks forward to working with the commission while developing this important new source of clean and sustainable energy storage. If you have any questions or require additional information regarding this submittal, please contact me at (909) 595-5314 or email me at [victor.rojas@ptei.net](mailto:victor.rojas@ptei.net).

Sincerely,

  
Victor M. Rojas

Managing Director at Premium Energy Holdings, LLC

Enclosures

cc:

**BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**APPLICATION FOR PRELIMINARY PERMIT  
FOR THE  
INTERMOUNTAIN PUMPED STORAGE PROJECT**

FERC Project No. \_\_\_\_\_

Prepared by

**Premium Energy Holdings, LLC**

May 9, 2019

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**INITIAL STATEMENT****BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION****Application for Preliminary Permit  
for the Intermountain Pumped Storage Project**

Premium Energy Holdings, LLC (“Premium Energy”), a California based limited liability corporation, applies to the Federal Energy Regulatory Commission for a preliminary permit for the Intermountain Pumped Storage Project, as described in the attached exhibits. This application is made in order that the applicant may secure and maintain priority of application for a license for the project under Part I of the Federal Power Act while obtaining the data and performing the acts required to determine the feasibility of the project and to support an application for a license.

1. The location of the proposed project is:

State or territory:	Utah
Counties:	Millard County
Township or nearby town:	Oak City, Delta
Streams:	Sevier River, Fool Creek

2. The exact name, business address, and telephone number of the applicant are:

Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314

3. The name, business address, and telephone number of the persons authorized to act as agent for the applicant in this application are:

Victor M. Rojas  
Managing Director at Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314  
Email: [victor.rojas@ptei.net](mailto:victor.rojas@ptei.net)

Maria Hernandez  
Project Manager at Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314  
Email: [maria.hernandez@ptei.net](mailto:maria.hernandez@ptei.net)

4. Preference under Section 7(a) of the Federal Power Act
5. Premium Energy is a corporation based in California and is not claiming preference under section 7(a) of the Federal Power Act. Premium Energy's business primarily involves the retrofit and modernization of pumping plants, transmission planning and design, power system studies, testing and commissioning of power plants and substations.

6. Term of Permit:

The proposed term of the requested permit is twenty-four (24) months.

7. Existing Dams or Other Project Facilities:

The proposed project would make use of the existing DMAD reservoir water and existing dam. The Intermountain Pumped Storage Project would use the existing DMAD reservoir as a lower pool and proposes a new Dry Fork Reservoir to serve as upper pool. The filling of these reservoirs would be done through the seasonal high flow of the existing Sevier River.

**ADDITIONAL INFORMATION REQUIRED BY 18 C.F.R. § 4.32(a)**

1. Identification of persons, associations, domestic corporations, municipalities, or state that has or intends to obtain and will maintain any proprietary right necessary to construct, operate, or maintain the project:

Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789  
Telephone: (909) 595-5314

2. Identify (names and mailing addresses):

- i. Every county in which any part of the project, and any Federal facilities that would be used by the project, would be located.

Millard County Commission  
71 S 200 W  
Delta, UT 84624  
Telephone: (435) 864-1400

- ii. Every city, town or similar local political subdivision:

- (A) In which any part of the project, and any Federal facilities that would be used by the project, would be located:

*None.*

- (B) That has a population of 5,000 or more people and is located within 15 miles of the project dam:

*None.*

- iii. Every irrigation district, drainage district, or similar special purpose political subdivision:

- (A) In which any part of the project, and any Federal facilities that would be used by the project, would be located:

Millard County Water Conservancy District  
2525 South 500 West  
Delta, UT 84624  
Telephone: (435) 864-2494

Sevier River Water Users Association  
PO Box 383  
Richfield, UT 84701

Central Utah Water Conservancy District  
1426 E 750 N St STE. 400  
Orem, UT 84097  
Telephone: (801) 226-7100

Utah Division of Water Rights  
1594 West North Temple Suite 220  
P.O. Box 146300,  
Salt Lake City, UT 84114  
Telephone: (801) 538-7240

(B) That owns, operates, maintains, or uses any project facilities or any Federal facilities that would be used by the project:

Intermountain Power Agency  
10653 S. River Front Parkway, Suite 120  
South Jordan, UT 84095  
Telephone: (801) 938-1333

Los Angeles Department of Water and Power  
111 N Hope Street  
Los Angeles, CA 90012  
Telephone: (800) 499-8840

iv. Every other political subdivision in the general area of the project that there is reason to believe would likely be interested in, or affected by, the application; and interest:

Utah Division of Forestry, Fire & State Lands  
2031 South Industrial Park Road  
Richfield, UT 84701  
Telephone: (435) 896-2558

Five County Association of Governments  
1070 W 1600 S  
Saint George, UT 84770  
Telephone: (435) 673-3548

Utah Chapter, Sierra Club  
423 West 800 South, Ste A103  
Salt Lake City UT 84101  
Telephone: (801) 467-9294

West Millard Mosquito Abatement District  
1050 West 1000 North PO Box 605  
Delta, UT 84624  
Telephone: (435) 864-4742

v. All Indian tribes that may be affected by the project:

Chairperson  
Paiute Indian Tribe of Utah  
440 North Paiute Drive,  
Cedar City, UT  
Telephone: (435) 586-1112

Chairperson  
Kanosh Band of Paiute Indians  
PO Box 116  
Kanosh, Utah 84637

Chairperson  
Koosharem Band of Paiute Indians  
P.O. Box 205  
Richfield, Utah 84701  
Telephone: (435)-896-2823

Chairperson  
Cedar Band of Paiute Indians  
600 North 100 East  
P.O. Box 235  
Cedar City, Utah 84721

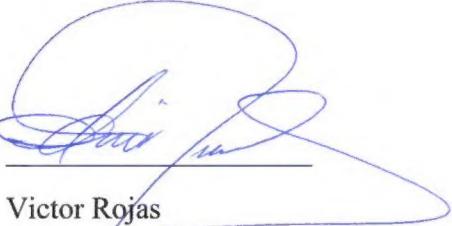
Chairperson  
Indian Peaks Band of Paiute Indians  
PO Box 2062  
Cedar City, Utah 84721  
Telephone: (435) 238-0772

## VERIFICATION STATEMENT

This application for a preliminary permit for the proposed Intermountain Pumped Storage Project is executed in the state of California, county of Los Angeles.

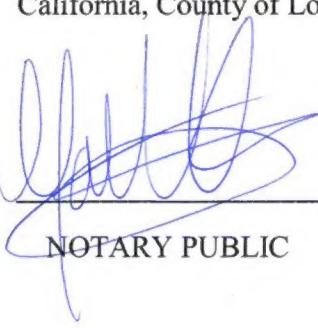
By: Victor M. Rojas  
Premium Energy Holdings, LLC  
355 South Lemon Ave, Suite A  
Walnut, CA 91789

Being duly sworn, deposes, and says that the contents of this application for a preliminary permit are true to the best of his knowledge or belief. The undersigned applicant has signed the application on this 9th day of May of 2019.

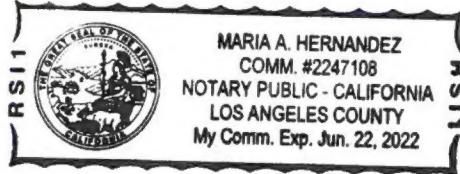


Victor Rojas  
Managing Director at Premium Energy Holdings, LLC

Subscribed and sworn before me, a Notary Public of the State of California, County of Los Angeles, this day of May 9th, 2019.



NOTARY PUBLIC



## EXHIBIT 1 – DESCRIPTION OF THE PROPOSED PROJECT

### 1. GENERAL CONFIGURATION

The proposed Intermountain Pumped Storage Project would be located 5 miles north east of Delta, and 7 miles west of Oak City, Utah in the Millard County. The project concept envisions the construction of a pumped storage power plant facility with capacity ranging from 1,200 MW to 2,000 MW. The project proposes to use the existing DMAD reservoir as a lower pool and a new reservoir in the Canyon Mountains Range to serve as the upper pool.

The existing DMAD reservoir dam would need to be raised in order to store an additional water reserve for pumped storage operation. The dam's raise would also allow for additional water storage to be used for irrigation and water conveyance. The proposed Intermountain Pumped Storage Project would operate in a closed loop. Aside from evaporation and percolation losses, the project's water would stay within the system. Therefore, the DMAD reservoir's remaining water storage would not be used for project operation.

Alternatives for an upper reservoir to operate the Intermountain Pumped Storage Power Plant would require the construction of a new embankment to create a new reservoir in the Canyon Mountains east of the existing DMAD Reservoir. The new upper reservoir alternatives are listed below and are depicted in Exhibit 3.

- Upper Reservoir Alternative 1: A new Dry Fork Reservoir at 6,200 ft el.
- Upper Reservoir Alternative 2: A new Mill Canyon Reservoir at 6,600 ft el.
- Upper Reservoir Alternative 3: A new Williams Reservoir at 7,140 ft el.

The embankments for the proposed upper reservoir alternatives would consist of roller compacted concrete dams. Conceptual dimensions for the project's dams and penstock for each alternative are detailed in tables 1 and 2, respectively.

Table 1. New Reservoirs' Embankment Dimensions

Description	Proposed Reservoir	Dam Crest Elev. [ft]	Dam Height [ft]	Dam Length at Crest [ft]
Lower Reservoir	DMAD Reservoir (Raised)	4,700	45	3,030
Upper Reservoir Alternatives	Dry Fork Reservoir	6,205	370	2,460
	Mill Canyon Reservoir	6,605	390	2,250
	Williams Reservoir	7,145	465	1,820

The proposed Intermountain Pumped Storage Project is expected to have a rated capacity at 2,000 MW. It would interconnect with the existing IPP Switchyard to facilitate pumped storage operation. Consequently, the project would be most attractive to the Intermountain Power Agency, due to the proposed use of their existing resources

in the area. Additionally, other electrical utilities in California and Nevada are expected to be interested in the project as a resource for storing and maximizing renewable energy use.

Table 2. Hydro Power Penstock Dimensions

Lower Reservoir	Upper Reservoir Alternative	Head [ft]	Tunnel Diameter [ft]	Tunnel / Penstock Length [mi]
DMAD Reservoir (Raised)	Dry Fork Reservoir	1,505	38	9.1
	Mill Canyon Reservoir	1,905	34	9.6
	Williams Reservoir	2,445	30	12.6

Aside from the dam raise of the existing DMAD Reservoir and the construction of the new embankment for the selected upper reservoir alternative, a hydro power penstock or pressurized tunnel will be required to connect the two reservoirs to the powerhouse. The pumped storage power house, generating/pumping units, electrical switchyards, interconnecting transmission lines, and other appurtenant facilities would complete the project.

## 2. RESERVOIRS

The upper and lower reservoirs configuration would be determined by evaluating the best suited alternative to maximize the available hydraulic head and minimize the penstock layout to reduce energy losses, while staying within environmental constraints. The proposed reservoir sites within this application are the result of conceptual engineering completed by Premium Energy and its consultants. During the term of the preliminary permit, Premium Energy will further investigate on the pumped storage reservoirs configuration and select the best suited location for energy, economic and environmental considerations.

The project concept includes the existing DMAD reservoir with a raised dam serving as a lower reservoir and three alternatives for an upper reservoir in the Canyon Mountains Range. A hydraulic head of up to 2,445 ft would exist between the new upper and lower reservoir, which would be exploited for hydro power generation.

### A. Lower Reservoir Configuration

The project proposes to raise the existing DMAD Reservoir's dam and use it to serve as the lower pool for pumped storage operation. The DMAD Reservoir dam's crest would need to be raised 20 ft. Its final water surface maximum elevation would be at 4,695 ft. By elevating the DMAD Reservoir's water surface, the reservoir would cover an area of 4,160 acres, with a 57,930 acre-ft storage capacity. The proposed DMAD Reservoir with its dam raised would be filled during the high flow season of the Sevier River.

The existing DMAD dam crest current elevation is at 4,680 ft. After raising the dam, its crest would be at 4,700 ft el. Aside from the current 11,000 acre-ft of water storage capacity, the proposed DMAD Reservoir would be able to allocate around 10,000 acre-ft of additional water for irrigation and water conveyance. Around 35,000 acre-ft of water of the raised DMAD Reservoir would be used for the Intermountain Pumped Storage Project. Operation would be possible for 12 hours of 2,000 MW continuous output, with backup for 24 hours of power generation.

Due to the raising of the DMAD Reservoir dam, a few dead-end roads leading to the Sevier river will become inundated. These roads are dirt roads used to reach the Sevier river for recreation. The main roads in the area would not be affected by the dam's raise. Likewise, the existing IPP pump house would need to be demolished or elevated to match the final elevation of the raised DMAD dam.

#### B. Upper Reservoir Configuration

The project's upper reservoir alternatives are located in the Canyon Mountains to the east of the DMAD Reservoir. The proposed upper reservoir would be created in either the Dry Fork, the Fool Creek (Mill Canyon Reservoir) or the Dry Creek (Williams Reservoir). The new upper reservoir alternatives' physical characteristics are detailed in table 3.

Table 3. Upper Reservoir Alternatives Characteristics

Proposed Upper Reservoir	Surface Area [acre]	Storage Capacity [acre-ft]	Maximum Surface Elevation [ft]
Dry Fork Reservoir	270	38,580	6,200
Mill Canyon Reservoir	204	29,420	6,600
Williams Reservoir	174	26,820	7,140

The new reservoirs will have intake-outlet structures with a submerged intake elevation at an adequate height to enable pumped storage operation. Below this elevation, a permanent reserve of water will remain in the reservoirs. From the intake-outlet structures, a pressure tunnel will unfold to connect to the new Intermountain PS Power Plant and then to the proposed DMAD Reservoir with its dam raised. The proposed upper reservoir alternatives would have enough stored water for the Intermountain Pumped Storage Power Plant to generate 2,000 MW for up to 24 hours.

The new upper reservoir alternatives site would naturally discharge runoff water to the existing streams which would be impounded. During high water level season, excess water from the proposed upper reservoirs would be discharged to the Dry Fork, the Fool Creek or the Dry Creek, respectively. These streams naturally discharge to the Central Utah Canal.

### 3. TRANSMISSION LINES

The project proposes interconnection with the existing Intermountain AC Switchyard. The Intermountain Pumped Storage Power Plant would interconnect to the Intermountain AC Switchyard using two new 345 kV transmission lines. For the Williams Upper Reservoir, the proposed 345 kV transmission lines would use the ROW of the existing 46 kV transmission lines. For the other upper reservoir alternatives, a new corridor will be required.

In order to deliver the generated power to the regional electrical utility network, the following transmission paths are available:

- Transmission Path 1 (California Path 27) interconnects the Intermountain PS Project to the existing Intermountain AC Switchyard. From there, the power would be transmitted to the Intermountain Converter Station. The power would then be converted from AC to DC and it would be transmitted to Adelanto, CA through the existing 500 kV DC transmission line.
- Transmission Path 2 (Utah Path 28) would interconnect the Intermountain PS Project with the existing Intermountain AC Switchyard and transmit the power to Mona through the existing 345 kV transmission lines to the east.
- Transmission Path 3 (Nevada Path 29) would interconnect the project to the Intermountain Switchyard and then transmit the power to Ely, NV through the existing Gonder IPP 230 kV transmission line.

Further studies of the project's two new 345kV transmission lines location/alignment, type of towers, number of circuits, conductor selection and number of bundle conductors per phase, as well as interconnection alternatives will be carried out during the term of this preliminary permit, to select the most preferable line design. Additionally, preliminary system impact studies of the project interconnection will be conducted to determine minimum network improvements for the interaction of the project with the future Intermountain Generating Station (if applicable), the Intermountain Converter Station (ICS), and the surrounding ac network system.

### 4. PROJECT CAPACITY

Based on preliminary analysis, the planned total installed capacity of the Intermountain Pumped Storage Power Plant would be 2,000 MW. However, the project's rating may vary as studies proceed. The project would store excess renewable energy, helping to integrate renewables onto the grid, and to supply firm peaking power generation with primary load following capability. Premium Energy plans to conduct a system impact study and power market investigations to help further refine the range of suitable generation capabilities.

Assuming a plant capacity factor of 40%, the Intermountain Pumped Storage Power Plant, rated at 2,000 MW, would produce a total of 6,900 GWh of annual energy production. On a preliminary analysis, the maximum gross head may be up to 2,460 feet

depending on the selected upper reservoir alternative. The proposed project currently envisions procurement of five new pump-turbine generator-motor sets for the pumped storage power plant. Each unit would have a nominal rating at 400 MW.

## 5. FEDERAL LANDS

The project layout study boundary, as shown on Exhibit 3, encompasses both federal and private lands. The proposed Intermountain Pumped Storage Project would occupy Bureau of Land Management (BLM) lands, Utah's State Trust Lands north of Oak City and part of the Fishlake National Forest, which is managed by the U.S. Forest Service.

After raising its dam, the proposed DMAD Reservoir would extend through Bureau of Land Management lands and Utah's State Trust Lands. The proposed upper reservoir alternatives: Dry Fork Reservoir, Mill Canyon Reservoir, or Williams Reservoir, would be created in the Fishlake National Forest lands. The pressure tunnels or penstocks would go through part of the Fishlake National Forest, the Bureau of Land Management lands and Utah's State Trust Lands.

The interconnection of the project will require two new 345 kV transmission lines interconnecting with the existing Intermountain AC Switchyard. The transmission corridor for these lines will occupy either the ROW of the existing 46 kV transmission lines corridor or a new corridor adjacent to the Brush Wellman road. In the first case, the transmission lines would extend through BLM lands and Utah's State Trust Land. In the case of a new transmission corridor parallel to Brush Wellman road, it would extend only through Utah's State Trust Land.

Form FERC-587  
 OMB No. 1902-0145  
 (Expires 10/31/2018)

### LAND DESCRIPTION

**Public Land States  
 (Rectangular Survey System Lands)**

1. STATE UTAH 2. FERC PROJECT NO. Not applicable

3. TOWNSHIP 15S RANGE 6W MERIDIAN Salt Lake

4. Check one:

Check one:

License  
 Preliminary Permit

Pending  
 Issued

If preliminary permit is issued, give expiration date: Not applicable

### 5. EXHIBIT SHEET NUMBERS OR LETTERS

Section 6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30 Exhibit 3	29 Exhibit 3	28 Exhibit 3	27 Exhibit 3	26	25
31	32 Exhibit 3	33	34 Exhibit 3	35 Exhibit 3	36 Exhibit 3

6. Contact's name Victor M. Rojas

Telephone no. (909-595-5314)

Date submitted May 9 2019

This information is necessary for the Federal Energy Regulatory Commission to discharge its responsibilities under Section 24 of the Federal Power Act.

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If preliminary permit is issued, give expiration date: Not applicable

### 5. EXHIBIT SHEET NUMBERS OR LETTERS

Section 6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19 Exhibit 3	20	21	22	23	24
30 Exhibit 3	29	28	27	26	25
31	32	33	34	35	36

6. Contact's name Victor M. Rojas

Telephone no. (909-595-5314)

Date submitted May 9, 2019

This information is necessary for the Federal Energy Regulatory Commission to discharge its responsibilities under Section 24 of the Federal Power Act.

## EXHIBIT 2 – DESCRIPTION OF THE PROPOSED STUDIES

### 1. GENERAL REQUIREMENT

Premium Energy proposes to carry out an extensive feasibility study to evaluate the proposed reservoirs configuration alternatives, as well as the power transmission alternatives. The primary aspects to be studied are the geological, environmental and water resources, and electrical engineering of the project. The studies would also include the economic viability and financing of the project. The complete feasibility study will include:

- Project site land investigation.
- Geological and seismic investigation.
- Soil surveys, test pits, bore holes and topographical surveying.
- Hydrological studies including runoff, rain, evaporation and groundwater flow.
- Evaluation of upper reservoir configuration alternatives.
- Devising of the project's water supply plan, including legal and water rights matters.
- Environmental and cultural impact study comprising environmental surveys, impact identification, evaluation and mitigation measures.
- Engineering studies to optimize the project's physical configuration.
- Energy market studies and determination of preliminary power sales and supply expectations.
- Evaluation of transmission interconnection alternatives including electrical system impact studies.
- Determination of size and specifications of the required electro mechanical equipment.
- Cost estimates, economic feasibility and financing options investigation.

Based on the results and findings of the initial stages of the feasibility study, the applicant will prepare a Notice of Intent and Pre-Application Document as detailed in 18 C.F.R. §§5.5 and 5.6.

Temporary access roads will not be required to reach the project's proposed features site. The existing roads would be enough to perform the required studies. The existing DMAD Road will allow access to the existing DMAD Reservoir. Likewise, the existing Fool Creek Road will be sufficient to reach the proposed Dry Fork Reservoir site and the proposed Mill Canyon Reservoir site. Finally, the existing Dry Creek Road will allow access to the proposed Williams Reservoir site.

### 2. WORK PLAN FOR NEW DAMS CONSTRUCTION

The new upper reservoir dam construction will require subsurface investigations in the Canyon Mountains Range. The investigations would be done at the proposed upper reservoirs site, as depicted in exhibit 3. Soil and rock borings will be necessary to determine the rock/soil structure and stability for the proposed dams and power plants foundations. Soil and rock samples shall be extracted to conduct studies and determine

the soil mechanical properties. Therefore, assessing the project site's suitability for construction of the new dams. Furthermore, seismic surveys will also be required.

The schedule of activities will be completed by the applicant during the permit period as shown in the table below:

Table 5. Schedule of Activities

Schedule	Activity
Beginning in Month 1 to the end of Month 4	Conceptual engineering and evaluation of the alternative reservoir configurations
Beginning in Month 1 to the end of Month 6	Initial scoping and consultation
Beginning in Month 5 to the end of Month 10	Geotechnical and hydrological studies
Beginning in Month 7 to the end of Month 12	Soil and topographical surveying
Beginning in Month 1 to the end of Month 16	Environmental and cultural impact study
Beginning in Month 1 to the end of Month 14	Engineering studies to optimize the project's physical configuration
Beginning in Month 4 to the end of Month 16	Planning and evaluation of transmission interconnection alternatives
Beginning in Month 1 to the end of Month 12	Devising of water supply plan
Beginning in Month 12 to the end of Month 18	Legal and water rights matters
Beginning in Month 14 to the end of Month 24	Determination of size and specifications of the required equipment
Beginning in Month 10 to the end of Month 16	Energy market assessment
Beginning in Month 6 to the end of Month 16	Economic study for feasibility & financial planning investigation
Beginning in Month 10 to the end of Month 16	Preliminary licensing proposal, consultation, and documentation
Beginning in Month 16 to the end of Month 24	Preparation, review and filing of the FERC license application

The schedule of activities may deviate from its initial formulation. Activities may be adjusted or supplemented depending upon circumstances which may develop as the studies proceed. Remedial actions to the possible disturbance of the proposed studies include the implementation of an erosion and material disposal plan, backfilling of core borings and test pits, and replanting any disturbed vegetation.

### 3. STATEMENT OF COSTS AND FINANCING

The total estimated cost of carrying out or preparing the studies, investigations, tests, surveys, maps, plans or specifications described above are \$5 Million.

The expected sources of financing available to carry out the activities of the described feasibility study are:

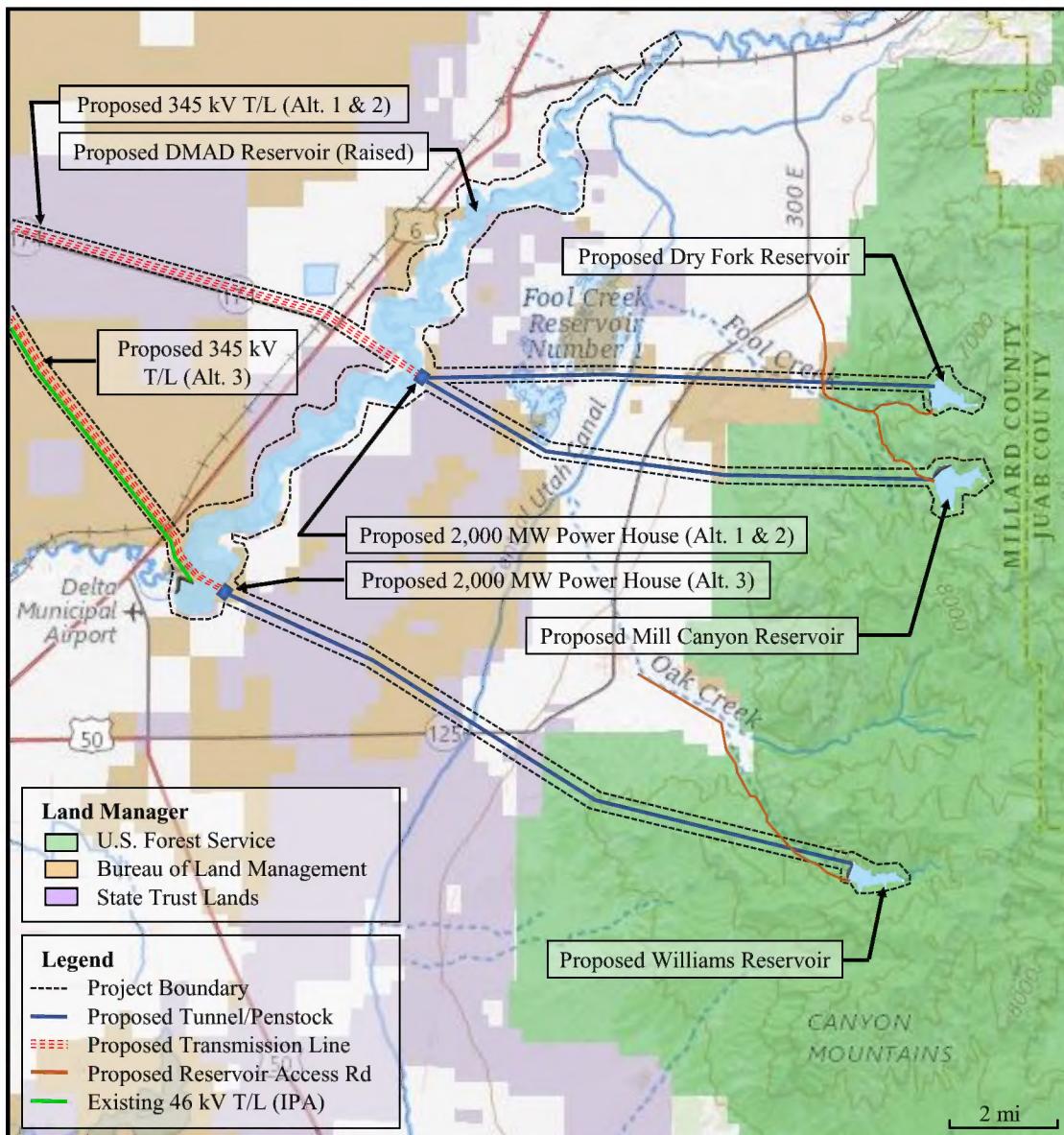
- Premium Energy's available funds.
- Balance raising through investors.

The proposed market for the energy storage and production covers the electric markets in California. Power purchasing entities and other potential off-takers will be identified in further investigations during the term of the preliminary permit.

## EXHIBIT 3 – INTERMOUNTAIN PUMPED STORAGE PROJECT MAP

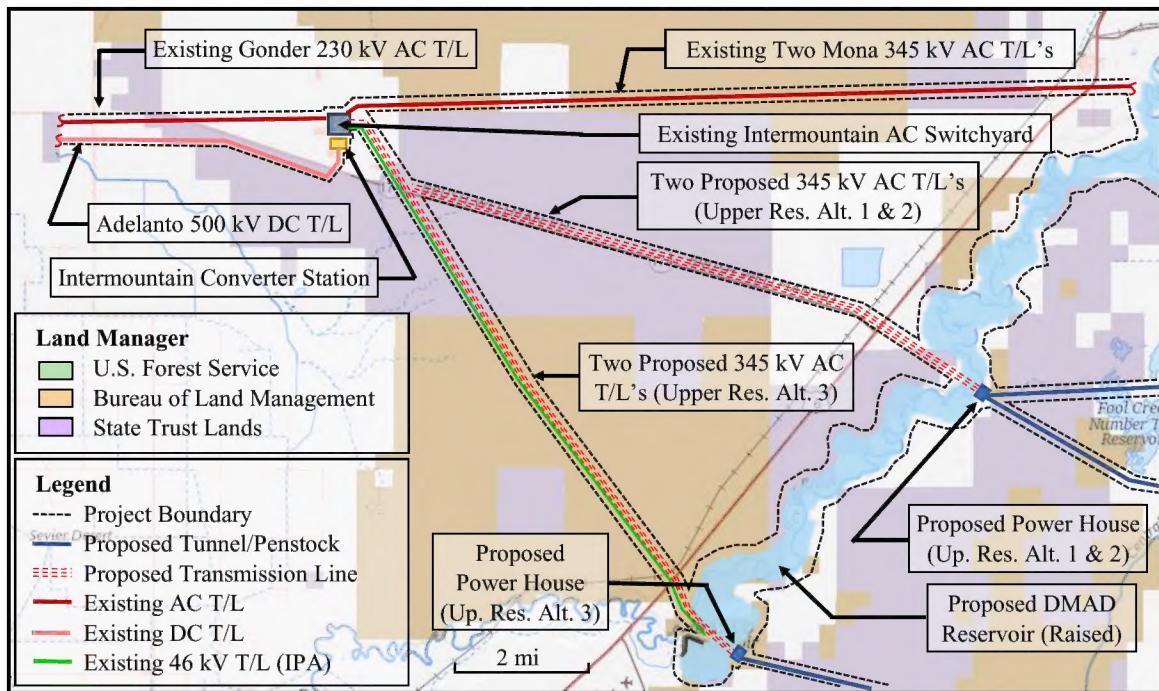
## Intermountain Pumped Storage Project Study Area Boundary

## Project Layout



## Intermountain Pumped Storage Project Study Area Boundary

### Electrical Interconnection



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